UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT

(acre)

CODE 595

DEFINITION

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to maintain weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

PURPOSES

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources, and/or humans.

CONDITION WHERE PRACTICE APPLIES

It applies wherever pests will be managed.

CRITERIA

General Criteria Applicable to All Purposes

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with federal, state, and local regulations, including management plans for invasive pest species, noxious weeds, and disease vectors. Compliance with the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); Interim Endangered Species Protection Program (H7506C); Alabama Pesticide Act; Alabama Custom Applicator Law; and Alabama Professional Service Law is required for chemical pest control.

Pesticides classified as "restricted use" can only be purchased and applied by certified applicators, who maintain a license and certification with the Alabama Department of Agriculture and Industries.

Integrated Pest Management (IPM) that strives to balance economics, efficacy, and environmental risk, where available, shall be incorporated into planning alternatives. (IPM is a sustainable approach to pest control that combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human health and natural resources. IPM suppression systems include biological controls, cultural controls, and judicious use of chemical controls.) For commodity-specific IPM recommendations refer to the latest version of the Alabama Pest Management Handbook (ANR-500A) available from the Alabama Cooperative Extension System. (Web site: http://www.aces.edu/pubs/docs/A/ANR-0500/vol-1/

An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of pest management activities in accordance with quality criteria in the local Field Office Technical Guide. Mitigation techniques include practices like a Filter Strip or Conservation Crop Rotation, and management techniques like application method or timing.

All methods of pest management must be integrated with other components of the conservation plan.

Clients shall be instructed to pay special attention to all environmental hazards and site-specific application criteria listed on pesticide labels and contained in Extension and Crop Consultant recommendations.

Additional Criteria to Protect Quantity and Quality of Commodities

As an essential component of both commodity-specific IPM and IPM general principles, clients shall be encouraged to use the minimum level of pest control necessary to meet their objectives for commodity quantity, and quality, as well as follow pesticide labels.

Additional Criteria to Protect Soil Resources

In conjunction with other conservation practices, the number, sequence, and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective. The Revised Universal Soil Loss Equation (RUSLE) and the Soil Conditioning Index (SCI) shall be used as the evaluation tools to determine soil loss and soil quality levels.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in soil that may negatively impact non-target plants, animals, and humans.

Additional Criteria to Protect Water Resources

Pest management environmental risks, including the impacts of pesticides in ground and surface water on humans and non-target plants and animals, must be evaluated for all identified water resource concerns.

Identified water resource concerns include streams and related watersheds on the ADEM 303(d) list, EQIP Priority Areas, State Water Quality Areas, which have identified pesticides as a concern or potential concern. Other vulnerable areas to be evaluated are those on the ADEM list of Outstanding Water Bodies, those within 50 feet of the waterline of a perennial stream, 50 feet of a well used for drinking water, 100 feet of the waterline of a pond or lake, or as described on the label of the pesticide to be used.

Pesticide environmental evaluations shall be done using the Windows Pesticide Screening Tool (WIN-PST). When a chosen alternative has significant potential to negatively impact important water resources, (e.g., WIN-PST "Extra High", "High" or "Intermediate" soil/pesticide human risk ratings in the drainage area of a drinking water reservoir), an appropriate set of mitigation techniques must be put in place to address risks to humans and non-target plants and animals.

Mitigation and Management Techniques

Select pesticides that are effective, but have a lower half-life, and lower potential to leave the management site through runoff or leaching according to site condition or less severe impacts to non-target species.

All setback requirements (areas of non-application) stated on pesticide labels should always be followed.

Install conservation buffers such as filter strips, riparian forest buffers, grassed waterways, contour buffer strips, and field borders which absorb, filter, and facilitate the accelerated biodegradation of pesticides.

Because many pesticides are highly adsorbed to soil, erosion control practices should be implemented to reduce pesticide mobility. Fields should be managed to maintain soil quality and soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective.

Use pesticide application techniques such as chemigation, banding, split applications, controlled droplet applications, or spot treatments to help reduce negative impact of pesticides and increase effectiveness on target pests.

Timing of pesticide applications in relation to present soil moisture, current and anticipated weather conditions, and irrigation should be considered to achieve greatest efficiency and to reduce pesticide losses.

Additional Criteria to Protect Air Resources

Clients shall be encouraged to pay special attention to pesticide label instructions for minimizing volatilization and drift that may negatively impact non-target plants, animals, and humans.

Additional Criteria to Protect Plant Resources

Clients shall be encouraged to pay special attention to pesticide label instructions including those directed at:

- Preventing misdirected pest management control measures that negatively impact plants (e.g., removing pesticide residues from sprayers before moving to the next crop and properly adjusting cultivator teeth and flame burners).
- Appropriate climatic conditions, crop stage, soil moisture, pH, and organic matter in order to protect plant health.

- Limiting pesticide residues in soil that can carry over and harm subsequent crops.

Additional Criteria to Protect Animal and Human Resources

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to animals and humans.

CONSIDERATIONS

If commodity-specific IPM is not available, the following IPM principles should be considered:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.
- Avoidance, such as using pest resistant varieties, crop rotation, trap crops, etc.
- Monitoring, such as pest scouting, soil testing, weather forecasting, etc., to help target suppression strategies and avoid routine preventative pest control
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impact. Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.

Adequate plant nutrient and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor, and increase the plant's overall ability to tolerate pests or suppress pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

PLANS AND SPECIFICATIONS

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

As a minimum, the pest management component of a conservation plan shall include:

- Plan map and soil map of managed site, if applicable (use RMS plan maps if available).
- Location of sensitive resources and setbacks, if applicable (use RMS plan maps if available).
- Environmental risk analysis, with approved tools and/or procedures, for probable pest management recommendations by crop (if applicable) and pest.
- Interpretation of environmental risk analysis and identification of appropriate mitigation techniques.
- Operation and maintenance requirements.

OPERATION AND MAINTENANCE

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client. These may include:

- Review and update the plan periodically in order to incorporate new IPM technology, respond to cropping system and pest complex changes, and avoid the development of pest resistance.
- Maintain mitigation techniques identified in the plan in order to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers for individuals exposed to chemicals and the telephone numbers for the nearest poison control center.
- Alabama Poison Control Center Tuscaloosa, Alabama **1-800-462-0800, 205-345-0600, 205-933-4060**
- Regional Poison Control Center Birmingham, Alabama **1-800-292-6678**
- National Pesticide Telecommunications Network (NPTN) Corvallis, Oregon Non-emergencies **1-800-424-7378** Monday-Friday, 6:30 am - 4:30 pm Pacific Time

For advice and assistance with **emergency spills that involve agrichemicals**: in Alabama call **205-280-2312** (24 hr). The national 24-hr. CHEMTREC telephone number is:

1-800-424-9300

- The Federal Worker Protection Standards (WPS) covers pesticides used in the production of agricultural plants on farms,

forests, nurseries, and greenhouses. The WPS requires producers to reduce risk to employees by providing the following: safety training, safety poster, access to label information, and excluding workers from treated areas by following restricted-entry intervals (REIs). Those producers who "hire" workers must follow WPS. The County Extension office has training materials available.

- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs.
- Post signs according to label directions and/or federal, state, and local laws around sites that have been treated. Follow restricted entry intervals.
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to federal, state, and local regulations.
- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS).
- Calibrate application equipment according to Extension and/or manufacturer recommendations before each seasonal use and with each major chemical change.
- Replace worn nozzle tips, cracked hoses, and faulty gauges.
- Maintaining records of pesticide applications is an important part of pest management. The Federal Recordkeeping Law requires that you keep records on all Restricted Use Pesticides (RUP) for two years. It is highly recommended that records are maintained for all pesticide applications. The Federal Recordkeeping Law is administered by the USDA Agricultural Marketing Service. Required information for RUP applications include: name of certified operator, certification number of applicator, treated crop or site, application date, field location, brand or product name, EPA registration number, total amount of RUP applied, and acres treated. Publications and information are available from the county extension office to facilitate this requirement.

Pesticide Environmental Evaluation

When necessary, pesticide environmental evaluation will be done using WIN-PST.

The WIN-PST program can be downloaded from http://www.wcc.nrcs.usda.gov/pestmgt/winpst.html.. Alabama soils must also be downloaded. Follow WIN-PST downloaded instructions. When WIN-PST is used, the resource conservationist or state agronomist should be consulted.